

Precision Linear Transducers, Conductive Plastic (REC)



FEATURES

- Measurement Range 25mm to 450mm
- High accuracy $\pm 1\%$ down to $\pm 0.025\%$
- Essentially infinite resolution
- Long life
- Sealed on request

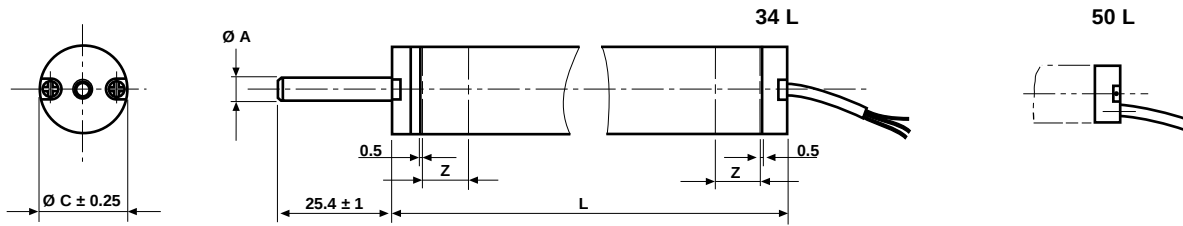
The 50 L and 34 L are compact, accurate and adaptable motion transducers for both industrial and military markets.

ELECTRICAL SPECIFICATIONS		
	50 L	34 L
Theoretical electrical travel (TET = E) in increments of 25mm	25mm 300mm	25mm 450mm
Independent linearity (over TET) on request	$\leq \pm 1\%$ - $\leq \pm 0.1\%$ $\leq \pm 0.05\%$ for $E \geq 100\text{mm}$ $\leq \pm 0.025\%$ for $E \geq 200\text{mm}$	
Actual electrical travel (AET)	see table 1	
Ohmic values (RT)	400 Ω /cm to 2k Ω /cm	
Resistance tolerance at 20°C	$\pm 20\%$	
Repeatability	$\leq 0.01\%$	
Maximum power rating	0.05W/cm at 70°C, 0W at 125°C	
Wiper current	recommended: a few μA - 1mA max. continuous	
Load resistance	minimum $10^3 \times R_T$	
Number of tracks	1; on request 2	
Insulation resistance	$\geq 1000\text{M}\Omega$	500VDC
Dielectric Strength	$\geq 500\text{VRMS}$ 50Hz	$\geq 750\text{VRMS}$ 50Hz

MECHANICAL SPECIFICATIONS		
	50 L	34 L
Mechanical travel	TET + 2mm min.	
Housing	anodized aluminium	
Operating force on request	0.35N typical (standard model)	2.50N typical (sealed model)
Shaft (free rotation)	stainless steel	
Termination on request	3 wires PTFE AWG-30 cable or connector	L = 300mm
Wiper	precious metal multifinger	
Sealing	IP65 on request	

PERFORMANCE	
Operating life	50 million cycles typical
Temperature range	- 55°C + 125°C
Sine vibration on 3 axes	1.5mm peak to peak or 15g - 10 Hz - 2000Hz
Mechanical shocks on 3 axes	50g - 11ms - half sine

STANDARD MODEL DIMENSIONS in millimeters, general tolerance $\pm 1\text{mm}$



ELECTRICAL CONNECTIONS

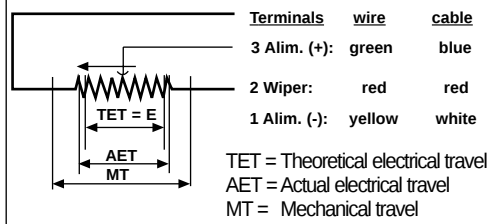


Table 1

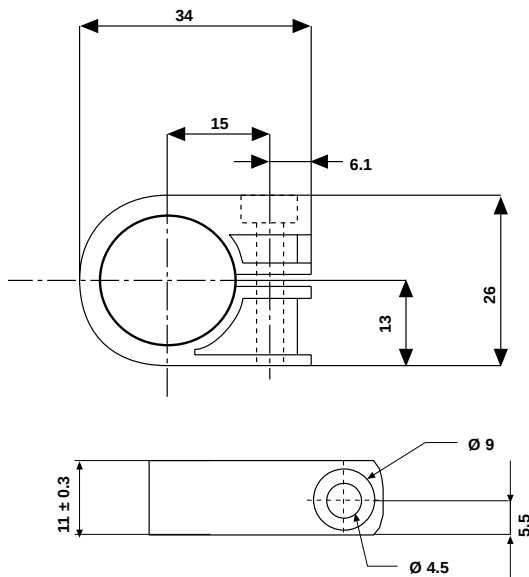
TET = E	AET	TOL.
25mm to 275mm	E + 1mm	$\pm 0.5\text{mm}$
300mm to 450mm	E + 1mm	$\pm 0.8\text{mm}$

Table 2

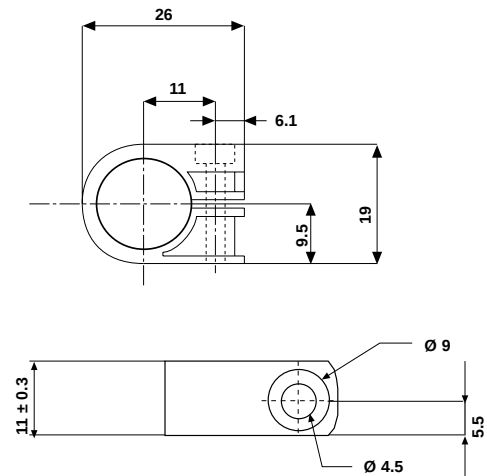
DIMENSIONS	50 L	34 L
Shaft ØA	- 0 3.175 - 0.025	- 0 5 - 0.025
Body ØC	12.7	19.05
Body Length L	E + 41	E + 63
Tightening Zone Z	7	12

ACCESSORIES ON REQUEST - DIMENSIONS in millimeters, general tolerance $\pm 3\text{mm}$

Clamp for 34L
Vishay Reference: CQ00051



Clamp for 50L
Vishay Reference: CQ00050



OPTIONS - DIMENSIONS in millimeters, general tolerance ± 1 mm**OPTION 1: SEALED (IP65)**

W03280 (34 L)

W03242 (50 L)

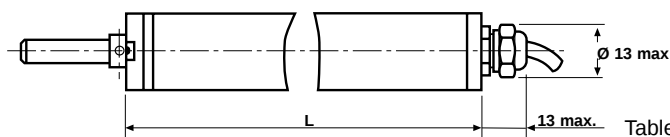
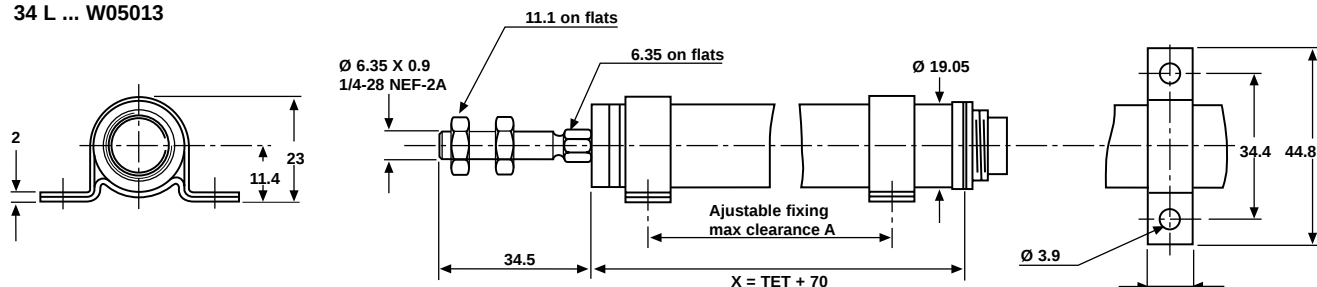


Table 3

MODEL	L
34 L	TET + 83.5
50 L	TET + 70.5

OPTION 2: DELIVERED WITH CLAMPS AND BINDER CONNECTOR 680

34 L ... W05013

**OPTION 3: SPRING LOADED SHAFT; OUTPUT BY SHIELDED CABLE**

W01744 (34 L)

W01743 (50 L)

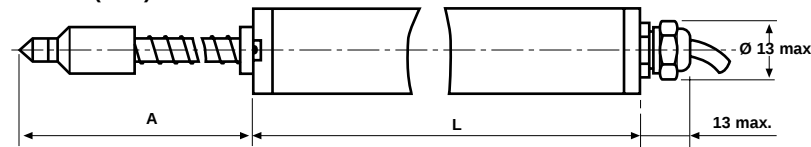


Table 4

MODEL	A	L
34 L1	61.4	TET + 119.5
34 L2	93.6	
34 L3	125.8	
34 L4	158	
50 L1	70	TET + 97.8
50 L2	116	
50 L3	162	
50 L4	208	

OPTION 4: DOUBLE BALL JOINT

W03263 (34 L)

W01565 (50 L)

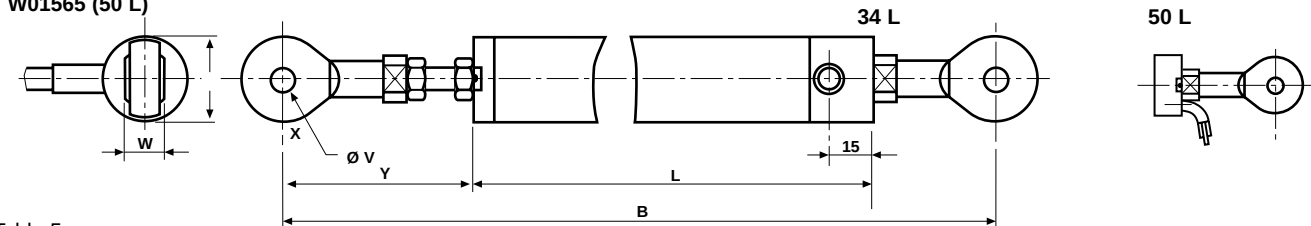


Table 5

MODEL CODE	B	L	ϕV	W	X	Y	TET
50 L W01565 L1 to L3	TET + 108.5	TET + 57.5	3	6	12	30 $\pm$ 2	25 to 75
L4 to L6	TET + 133.5	TET + 82.5	3	6	12	30 $\pm$ 2	100 to 150
34 L W03263 L1 to L5	TET + 151.6	TET + 82.8	5	8	18	42 $\pm$ 2	25 to 125
L6 to L10	TET + 173.6	TET + 104.8	5	8	18	42 $\pm$ 2	150 to 250
L11 to L12	TET + 230	TET + 161.2	5	8	18	42 $\pm$ 2	275 to 300

ORDERING INFORMATION

REC	34	L	3	D	103	W...
SERIES	MODEL	NUMBER OF TRACKS	THEORETICAL ELECTRICAL TRAVEL	LINEARITY	OHMIC VALUE	MODIFICATIONS
		L = 1 track LL = 2 tracks	Times 25mm	A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$ F: $\pm 0.025\%$	First 2 digits are significant numbers 3rd digit indicates number of zeros	Special feature code number